R E P O R T R E S U M E S

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EXPERIMENTS WITH CLOSED CIRCUIT TELEVISION (CCTV).

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TO ACHIEVE BETTER INTEGRATION BETWEEN THEORY AND PRACTICE IN TEACHER TRAINING IT IS NECESSARY TO STUDY IN DETAIL THE EFFECT OF THE USE OF CLOSED CIRCUIT TELEVISION (CCTV). BECAUSE IT CAN CONCENTRATE AND STORE KEY POINTS IN A TREATMENT SEQUENCE, CCTV IS PARTICULARLY HELPFUL IN EDUCATIONAL SITUATIONS THAT INVOLVE LONG SEQUENCES OF INSTRUCTION OVER TIME, OR THAT PERMIT OBSERVATIONS BY ONLY SMALL GROUPS OF TRAINEES. A MULTI-ANNUAL PROGRAM HAS BEEN DEVELOPED TO IMPROVE TECHNICAL FACILITIES AND TO CARRY OUT RESEARCH PROJECTS ABOUT (1) CCTV OBSERVATIONS IN TEACHER TRAINING, (2) COMMUNICATION OF INFORMATION BY CCTV, AND (3) CCTV AS A RESEARCH INSTRUMENT. DIAGRAMS FOR VISUAL AND AUDIO FACILITIES ARE INCLUDED. (OH)

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Project title: Experiments with closed circuit television (CCTV)

Conducted by: Institute of Educational Psychology, Stockholm School of Education

Investigation leader: Jon Naeslund, Ph.D.

Background and aims [1]

For a few years, closed ciruit television (CCTV) has been used in Swedish schools of education to achieve better integration between theory and practice in teacher training. The following and other programmes are of interest:

a. programmes whose purpose is to provide a basis for analyses of instruction and methods,
b. programmes illustrating theoretical situations in teaching and methods,
c. programmes designed to prepare for, complement or sometimes replace the trainees' auscultations.

Side by side with these programmes designed especially for teacher training, some purely informative programmes have been produced. Generally speaking, they may be said to consist of a lecture, communicated by way of television, with the resources to concretize such an account that are at the disposal of the medium.

To a certain extent, experiments were made with "mirror projection", that is a trainee's lesson is video-taped, after which he can study and analyse his own lesson.

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[1] See also Naeslund, Experiments with closed circuit television in teacher training (SOU 1965:31).

There are certain types of concretion in particular that are facilitated considerably by the help of CCTV. They are the concentration of educational situations that take a long time, storing, with the help of the TV camera and tape recorder, the key points in a treatment sequence in a reading clinic, the performance of group work and so on.

Some educational situations may be so dependent on time that very few trainees ever get a chance to become acquainted with them, or so sensitive to disturbance that they do not allow of a large group of trainees as onlookers. Such situations are children's first days at school, and work in an observation clinic.

Design of the investigation

Although the arrangements touched upon here may suggest hypothetically certain qualitative advantages compared with the conventional ones, and that, in some respects, they are necessary in view of the centralization and rapid quantitative development of teacher training, it is of great interest to study in detail the effect of the use of CCTV in teacher training. Such a study should also be differential in the meaning that its purpose should be to discover what types of information and concretion are best suited to this medium. It must also contain a comparison between different forms of school organization in respect to the economic consequences. In the last analysis, therefore, it should contribute to carry the rationalization of the subject matter and design of teacher training a step forward.

The investigations aim at studying the attitudes of trainees to information and concretion communicated by way of CCTV, and the retention of the knowledge the TV gives compared with information given conventionally and by demonstration respectively. They must also, for future reference, contain an analysis of the training items to facilitate an optimal balance between different components in effective teacher training. The objects of these studies are not,

therefore, only already existing TV programmes, but also the methods and the supplementary material used in conjunction with the programmes.

Technical apparatus [1]

For the experimental work outlined here the Stockholm School of Education has at its disposal the following premises and equipment:

1. Classroom studio

The studio is equipped with three TV cameras. One of these is fixed and gives an over-all view of the classroom. The other two are on tripods and can be moved around the classroom to suit the intentions of the various programmes. They can also be moved vertically and horizontally, and are fitted with zoom lenses. These movements are effected from the control room (see below). This means that none of the TV personal are in the studio in conjunction with direct broadcasts or recording.

The studio is also equipped with a number of microphones, certain arrangements to improve acoustics and possibilities for additional illumination.

2. Control Room

All activities in the studio are directed from the control room. From the control room are sent all instruction via microphone/loudspeaker before the programme begins or, in some cases, during recording by wireless to the teacher by earphones. As mentioned earlier, the cameras are also manoeuvred from the control room, as well as volume of sound in the different loudspeakers in the studio. There is also a video-tape recorder with the help of which programmes can be stored.

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[1] A more detailed description of the equipment will be found in (Newsletter): Naeslund, Closed Circuit Television (CCTV) at the Stockholm School of Education (Research Bulletin from the Institute of Educational Research, Teachers College, University of Stockholm. May 1967).

There is also a document camera in the control room. It is part of a repro-stand, with the help of which the viewers of a programme can be shown the text in the book from which the pupils are reading or the pictures they are just studying. The control room is that part of the equipment which is in greatest need of extension and new technical apparatus. The plans for an extension of the control room have already advanced a long way. A new control unit will probably be finished by the beginning of the autumn term of 1968.

3. Reception room

The Stockholm School of Education has at present only one room for the reception of CCTV programmes. This room holds about fifty trainees. Since the annual admission at present is about 700 trainees, and is expected to be a thousand or more in a year or so, additional reception rooms have been given high priority.

The present reception room is equipped with three video-receivers, all of which show the same picture. These receivers show only the picture. The sound goes to separate loudspeakers, one large one placed in front of the trainees and two hanging from the ceiling above them. Picture and sound go through separate cables from the control room to the reception room.

The sound absorbers in this room are not wholly satisfactory. An improvement of the acoustics is included in the present year's plans.

Appendices A and B show the picture and sound installations schematically.

B. Personnel

CCTV activities are led by one of the lecturers in education. His principal task is to coordinate the CCTV activities with the rest of the instruction.

A full-time producer is responsible for the current work of the CCTV institution. In consultation with the lecturers in education and methods, his duty is to plan and carry out production. He also participates - if he has time - in the work of research and development.

The producer has an assistant producer and a decorator/lithographer to help him, both engaged on very limited part-time, as well as a full-time studio technician.

C. Investigations already completed

During the academic year 1966/67, the work was concentrated on the development of apparatus and production technique, the training of personnel and so on. In the investigation programme implied above, only certain preliminary studies of attitudes have been performed up to now. They have referred to both the technical quality of the production and educational/methodological contents.

During the present year an expansion of these investigations is to be made together with some detail studies of the knowledge effect of TV instruction and demonstrations. Owing to the work on the current production - particularly that for the new teacher training - an extension of these activities must be postponed until the academic year 1968/69.

Timetable

The resources at the disposal of the Stockholm School of Education at present are clearly too small in respect of both personnel and operating budget. This gives rise to great difficulties for the institution when it is a question of choosing between current production to satisfy the acute need for programmes to use in teacher training and the work of research and development which must be regarded as equally urgent. With this in view, plans have been made at the institution to separate in principle these spheres of activity from and including the academic year 1968/69 for, at first, three

years onwards. The timetable given below is subject to the institute's receiving sufficient funds for such "divided" activities.

Three main projects are included in the planning:

I. CCTV observations in teacher training

a. Attitudes to CCTV observations compared with direct observations. (Relations observation methods - content of observation, choice between different observation methods in various branches of training, etc.)
b. Evaluation of acquired knowledge by means of different observation techniques.

II. Communication of information by CCTV

a. Comparisons between direct lectures and the same lecture televised (attitudes and knowledge aquired).
b. Comparisons between direct lectures and CCTV lectures on the same subject and with the same lecturer, but with the possibilities of concretion of different kinds that are available.

III. CCTV as a research instrument

Investigation of the reliability of subjective judgements of students' achievements and appointment/admission interviews respectively. (With taped lessons/interviews as a base, the same lesson/interview is rated by a greater number of judges and also by the same judges on different occasions.

The following preliminary timetable has been drawn up. [1]

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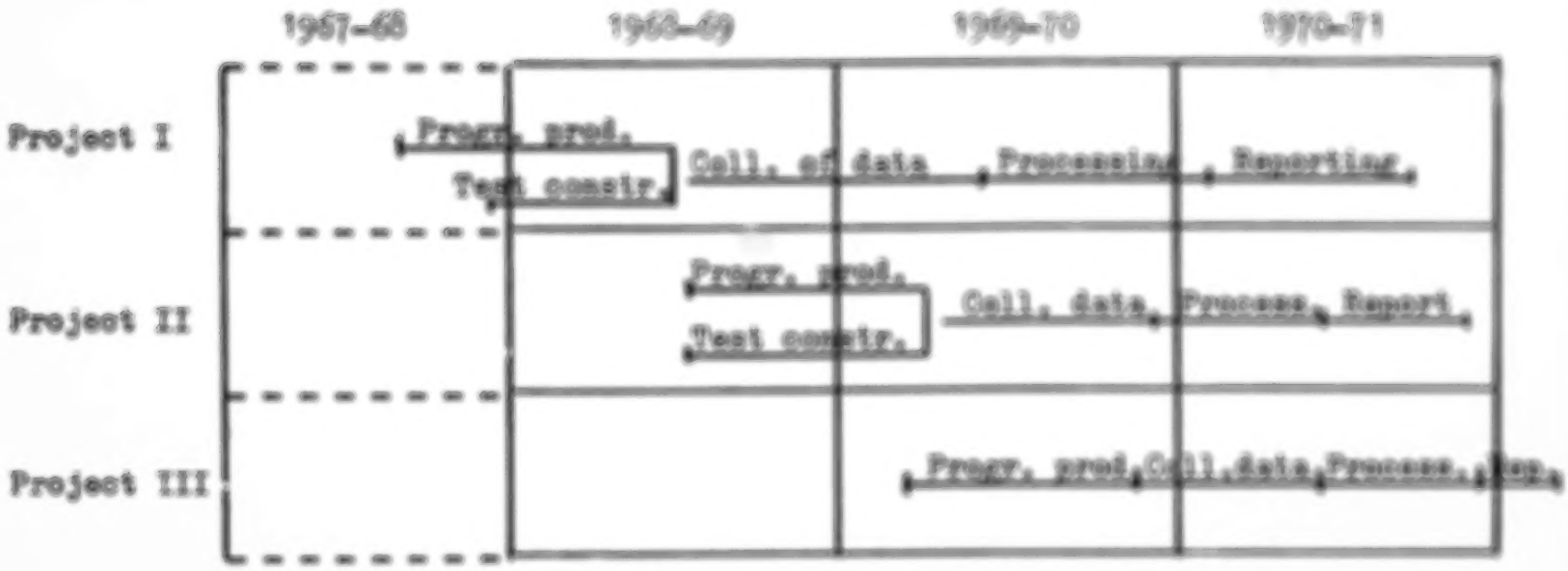
[1] Some changes in time between the projects may prove to be expedient according to how the other work of the institute develops.



Earlier School Research Newsletters: 1966:9

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FACILITIES DIAGRAM WELAJ

STUDIO

CONTROL ROOM

REC ROOM